

**Applicant(s):** Nobuyoshi Yazawa, et al.

**Examiner:** Unassigned

**Serial No.:** 10/081,940

**Art Unit:** Unassigned

**Filed:** February 22, 2002

**Docket:** 15311

**For:** IMAGE PICKUP APPARATUS  
FOR ENDOSCOPE

**Dated:** May 3, 2002

Assistant Commissioner for Patents  
United States Patent and Trademark Office  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

Sir:

In connection with the above-identified patent application, kindly enter the following preliminary amendment.

**IN THE SPECIFICATION:**

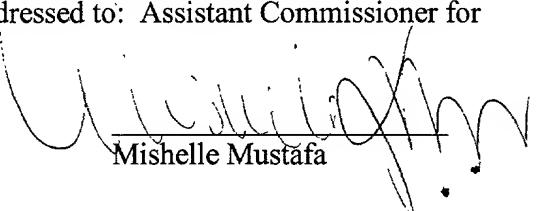
**Please replace the paragraph beginning at page 13, line 9, with the following rewritten paragraph:**

--Various filters 28 such as a crystal filter, an IR cut filter, and the like are disposed on the extreme end side, which is the incident light side of the CCD 11, of the imaging element frame 21. Note that the signal line of the camera cable 8 is electrically connected to the other end of the contact pin 25 of the hermetic connector 23.--

**CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)**

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Dated: May 3, 2002

  
Mishelle Mustafa

**Please replace the paragraph beginning at page 26, line 5, with the following rewritten paragraph:**

--The endoscope mount 103 can detachably mounted on an endoscope 102 for observing, for example, the interior of a body cavity. The imaging optical unit 111 has at least one optical lens 105 disposed thereto to form an optical image from the endoscope 102 on the solid imaging element 104. The optical members of the filter unit 106 are disposed such that an endoscope image having passed through the imaging optical unit 111 transmits or passes therethrough. The imaging apparatus main body 107 contains the solid imaging element 104, an imaging optical unit 111, the filter unit 106, and the like.--

**Please replace the paragraph beginning at page 28, line 14, with the following rewritten paragraph:**

--The knob portions 125 of the adjustment pins 121a and 121c have marks for making it easy to dispose the openings 115a, 115b, 115c, and 115d in a light path. For example, the adjustment pin 121a has an indicator 125a formed around the entire periphery thereof to indicate that the opening 115a is located in the light path, an indicator 125b for indicating that the opening 115b or 115d is located in the light path, and an indicator 125c for indicating that the opening 115c is located therein, as shown in FIG. 9A.--

**Please replace the paragraph beginning at page 28, line 23, with the following rewritten paragraph:**

--Further, the knob portions 125 of the adjustment pins 121b and 121d have an indicator 125d for indicating that the opening 115a or 115c is located in the light path, an

indicator 125e for indicating that the opening 115d is located in the light path, and an indicator 125f for indicating that the opening 115d is located in the light path.--

**Please replace the paragraph beginning at page 29, line 4, with the following rewritten paragraph:**

--Note that indicators having a desired recognizable shape, configuration, and size such as a round mark as shown in FIG. 9B, and the like may be used as the indicators [125] 125a, ..., 125f, in addition to the line around the entire periphery shown in 9A.--

**Please replace the paragraph beginning at page 36, line 22 with the following rewritten paragraph:**

--The motor shaft 204 extends from, for example, a motor 202 rotated by electric power as a rotary power source in an optical axis direction. The adjustment shaft 206 performs the focus adjustment and zooming by being moved and extends in the optical axis direction. A lead screw 207 is fixed to the other end of the adjustment shaft 206 and screwed into a support projection 208 projecting from a lens unit 203.--

**IN THE CLAIMS:**

**Please amend claim 15 as follows:**

15. (Amended) An endoscope imaging apparatus comprising:  
an optical part moving mechanism for moving an imaging optical unit or an imaging element in an optical axis direction to thereby perform a focus adjustment or a zooming adjustment, wherein:

    a tubular member having an elastic force is disposed in a part of a power transmission system for transmitting a power to the optical part moving mechanism; and

the power for moving the optical part moving mechanism originates from a rotary power source.

**IN THE DRAWINGS:**

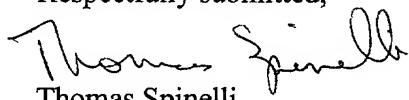
Attached is a "Request For Approval of Drawing Changes" accompanying amended drawings showing the changes in red ink.

**REMARKS**

Applicants submit that the foregoing amendments to the specification and claims were made to correct certain typographical errors. Furthermore, Figures 7, 8, 9a, and 9b have been amended to correct errors with regard to Reference Numeral 125. Applicants respectfully submit that the present amendment does not introduce new matter into the application.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Respectfully submitted,



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TS:cm  
Encl. (Version with Markings to Show Changes Made  
Request for Approval of Drawings Changes)

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE SPECIFICATION:**

**Paragraph beginning at line 9 of page 13, has been amended as follows:**

Various filters 28 such as a crystal filter, an IR cut filter, and the like are disposed on the extreme end side, which is the incident light side of the CCD 11, of the imaging element frame 21. Note that the signal line of the camera cable [7] 8 is electrically connected to the other end of the contact pin 25 of the hermetic connector 23.

**Paragraph beginning at line 5 of page 26, has been amended as follows:**

The endoscope mount 103 can detachably mounted on an endoscope 102 for observing, for example, the interior of a body cavity. The imaging optical unit 111 has at least one optical lens 105 disposed thereto to form an optical image from the endoscope 102 on the solid imaging element 104. The optical members of the filter unit 106 are disposed such that an endoscope image having passed through the imaging optical unit 111 transmits or passes therethrough. The imaging apparatus main body 107 contains the solid imaging element 104, an imaging optical unit [105] 111, the filter unit 106, and the like.

**Paragraph beginning at line 14 of page 28, has been amended as follows:**

The knob portions [125a and 125c] 125 of the adjustment pins 121a and 121c have marks for making it easy to dispose the openings 115a, 115b, 115c, and 115d in a light path. For example, the adjustment pin 121a has an indicator 125a formed around the entire periphery thereof to indicate that the opening 115a is located in the light path, an indicator

125b for indicating that the opening 115b or 115d is located in the light path, and an indicator 125c for indicating that the opening 115c is located therein, as shown in FIG. 9A.

**Paragraph beginning at line 23 of page 28, has been amended as follows:**

Further, the knob portions [125b and 125d] 125 of the adjustment pins 121b and 121d have an indicator 125d for indicating that the opening 115a or 115c is located in the light path, an indicator 125e for indicating that the opening 115d is located in the light path, and an indicator 125f for indicating that the opening 115d is located in the light path.

**Paragraph beginning at line 4 of page 29, has been amended as follows:**

Note that indicators having a desired recognizable shape, configuration, and size such as a round mark as shown in FIG. 9B, and the like may be used as the indicators [125] 125a, ..., 125f, in addition to the line around the entire periphery shown in 9A.

**Paragraph beginning at line 22 of page 36, has been amended as follows:**

The motor shaft 204 extends from, for example, a motor 202 rotated by electric power as a rotary power source in an optical axis direction. The adjustment shaft 206 performs the focus adjustment and zooming by being moved and extends in the optical axis direction. A lead screw 207 is fixed to the other end of the adjustment shaft 206 and screwed into a support projection 208 projecting from [the] a lens unit 203.

**IN THE CLAIMS:**

**Claim 15 has been amended as follows:**

15. (Amended) An endoscope imaging apparatus comprising:

an optical part moving mechanism for moving an imaging optical unit or an imaging element in an optical axis direction to thereby perform a focus adjustment or a zooming adjustment, wherein:

a tubular member having an elastic force is disposed in a part of a power transmission system for transmitting a power to the optical part moving mechanism; and  
the power for moving the optical part moving mechanism originates from a rotary power source.

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PATENTS



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Assistant Commissioner for Patents  
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**REQUEST FOR APPROVAL OF DRAWING CHANGES**

Sir:

Please approve the changes to Figures 7, 8, 9a, and 9b of the attached drawings  
(2 sheets) as indicated in red ink on the copies of said drawing.

Respectfully submitted,

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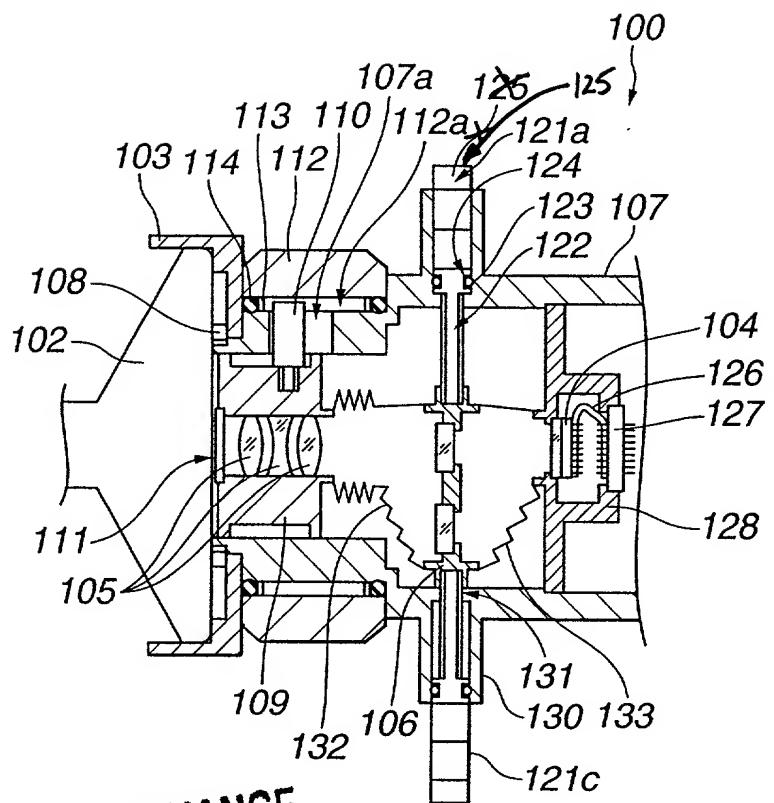
TS:cm  
Encl. (Amended Figures 7, 8, 9a, and 9b)

**CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)**

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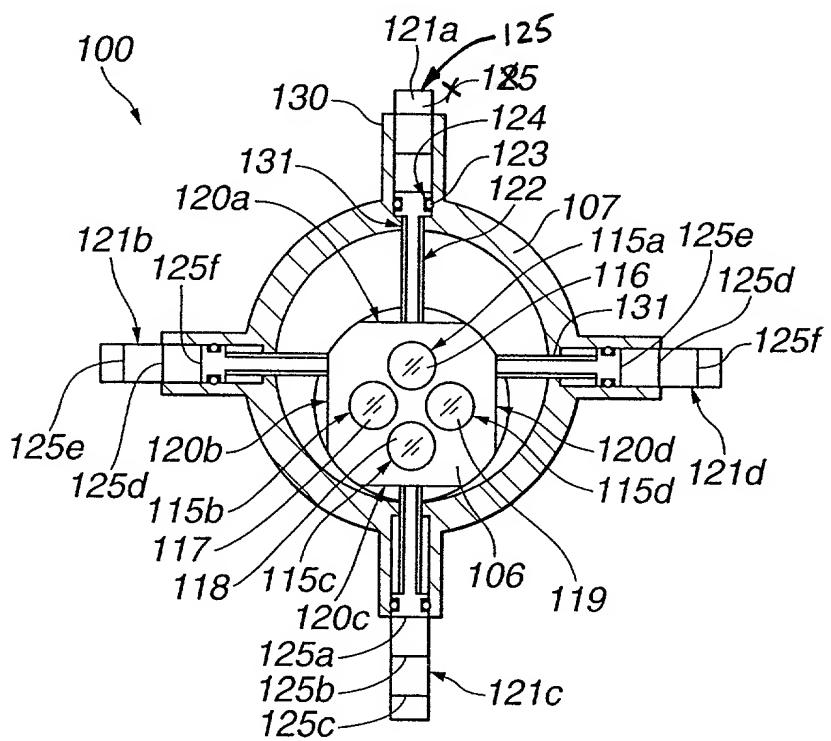
Dated: May 3, 2002

**FIG.7**

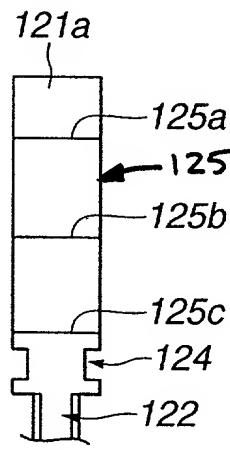


**PROPOSED DRAWING CHANGE**

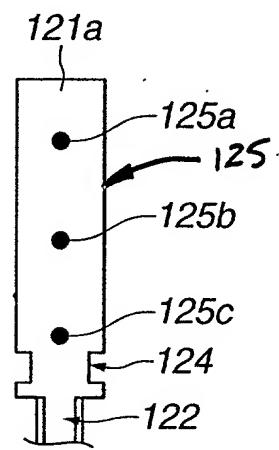
**FIG.8**



**FIG.9A**

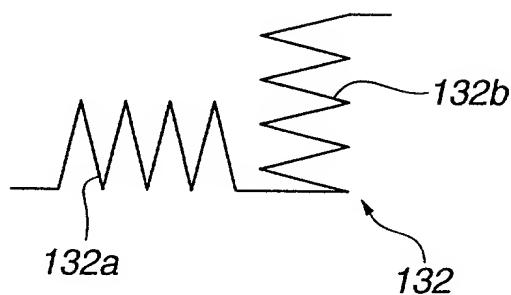


**FIG.9B**

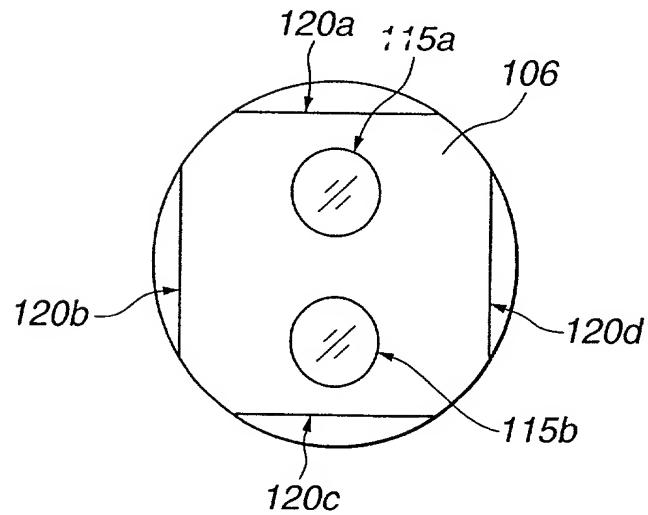


PROPOSED DRAWING CHANGE

**FIG.10**



**FIG.11**





## CERTIFICATE OF TRANSLATION

I, Kiyoshi HASEGAWA, of Musashi Bldg. 4-4, Nishishinjuku 7-chome, Shinjuku-ku, Tokyo, Japan, verify that the attached 45 pages comprise a certified translation of the original Japanese language document.

Dated this 2nd day of April, 2002

Kiyoshi Hasegawa  
Kiyoshi HASEGAWA

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